

## **The German Factory *Persische Teppich-Gesellschaft (PETAG)*: A laboratory for Technological Intervention in Early Twentieth Century Iran**

The discovery of a new scientific method for synthetic dying in Europe was a turning point for the intervention of science in the global carpet market. After four decades of chemical research in British laboratories and the application of the new discovery within the European dying industry, this new technology was introduced to Persia, first by British entrepreneurs, and then by their German counterparts. The key element that enabled the invention of this new technology was aniline colour extracted from coal tar mines. This brought German investors to the city of Tabriz, in Persia, as they were informed, at the early twentieth century, of the existence of three coal mines near the city founded by the British in the mid-nineteenth century, the coal mines did not come to the attention of the locals because of lack of technology and of proper roads to transport the coal to the city. This is how *Persische Teppich-Gesellschaft (PETAG)* became a laboratory factory for the dye industry, and later introduced this industry to Persia. The German entrepreneurs of PETAG discovered the use of chemical alizarin colours extracted from the local mines, a process which sped-up the production of carpets. The product was no longer based on domestic demand, but rather on the taste and demand of a new generation of European Middle class.

The project will address the key intervention of PETAG into the carpet-weaving business, made by importing to Persia six indigo colours, besides alizarin artificial colour or dye. I will look at how the process of transformation from natural dying to chemical dying was negotiated between the German investors, the Qajar state and the Iranian merchants of colour. Archival material indicates that it took a decade for the factory policymakers to stabilize the chemical dying colour process, with profound effects on the global market. The

project aims to investigate, first, how this intervention affected the lives of the labourers. Second, the ways in which the new technology altered the traditional production process, as well as the appearance and quality of Persian carpets, will be researched.

The German company, in competition with Russian, British and Italian carpet manufacturers, sought to reduce manufacturing costs by importing synthetic colours, such as Indigo dye, to Persia from 1906 onwards. Formerly, the natural and organic dyes used had been produced locally. The new, imported synthetic aniline was much cheaper and faster to use than the natural colours. However, the low-quality synthetic colours damaged the traditional coloured designs of the carpets. Foreign merchants benefited from using these German synthetic colours which led to higher production rates and greater profits for the European manufacturing companies.

I will work on PETAG's records, collected in the German archives (*Bundesarchiv and Landesarchiv*) in Berlin, which contain resources on the carpet-making industry in Tabriz. I will also draw on a collection of the Tabrizi local merchants correspondences with the Qajar state on colouring recently received from Sazman-e Asnad Va Ketabkhane-ye Melli-ye Iran (National Iranian archive and archives at the Iranian Parliament) and correspondences with the Persian Custom office from the Foreign Office archive in Tehran. I have recently gathered British records on PETAG from the Middle East Centre Archive, held by St. Antony's College Oxford, that are also pertinent to the current project. Finally, using unique archives of Professor Tavakoli in Toronto makes this research richer. In this study, I compare and analyse how different European archives (German and British), as well as Iranian archives, perceived and contextualized PETAG's activities in Tabriz and throughout Persia.

This study of German, British and Persian records on the German carpet industry contributes to shedding new light on the crucial role of politics in science, technology, and natural resources in the intersection of Europe and the Middle East context. This project

deals with socio-ecological transformation processes. In particular, this study engages with the current debate of on the Anthropocene as colonial discourse on modernity, capitalism, science and politics which traces in the middle of nineteenth and early twentieth century Iran. How the new scientific discovery of dying technology used by the British and German entrepreneurs provides natural hazards and threatened water, human lives and livelihood and other natural resources in the city of Tabriz and Azerbaijan. Following this, how this synthetic chemical technology was perceived by the locals, by the merchants, by the state and by the European entrepreneurs. Furthermore, how the market fractured by chemical synthetic prompted the values and fast products in global scales?

I visited the Princeton University Library on November 2014 and used the archive and newspaper collections for writing my dissertation. This fellowship is to assist me in pursuing my new project at an academic institution which specializes in contemporary Iranian history and related fields as well as to gain access the archives, manuscripts, rare books, and other rare and unique holdings of the Department of Rare Books and Special Collections, including Mudd Library; as well as rare books in Marquand Library of Art and Archaeology, and in the East Asian Library (Gest Collection), which will provide solid ground for my research in the field of Iranian studies.

During my junior research fellowship, I will publish an article on this project in a peer-reviewed North American journal in a year. My long-term career aim is to remain in the academic world as well as contributing to ongoing women movement in Iran and be active in teaching and research.

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